THE INVENTION CLAIMED IS

1. A system for balancing resolution of a scene having a bottom and a top and a near field and a far field, represented by a plurality lines of pixels that captures said scene's near field and maintains resolution in said scene's far field, comprising:

a camera, and

a computer that applies a specific zooming scale factor to each of said horizontal line of pixels and continuously increases the scale factor of said horizontal line of pixels from said bottom to said top to capture said scene in said near field, yet maintain resolution in said scene in said far field.

2. The system of claim 1 wherein said camera is a surveillance camera.

3. The system of claim 1 wherein said camera is a video surveillance camera.

4. The system of claim 1 wherein said camera is a digital camera interconnected via a digital network.

5. The system of claim 1 wherein said camera is a still camera.

6. The system of claim 1 wherein said computer is a digital computer.

7. The system of claim 1 wherein said computer is a general purpose computer.

8. The system of claim 1 wherein said computer is connected to a digital network.

9. The system of claim 1 wherein said lines of pixels are horizontal lines of pixels and said computer contains a computer program that applies a specific zooming scale factor to each of said horizontal lines of pixels and continuously increases the scale factor of said horizontal lines of pixels from said bottom to said top to capture said scene in said near field, yet maintain resolution in said scene in said far field.

10. The system of claim 9 wherein said horizontal lines of pixels form a digital image.

11. The system of claim 9 wherein said horizontal lines of pixels are photographic images.

12. The system of claim 9 wherein said lines of pixels are over-sampled.

13. The system of claim 12 wherein said computer contains a computer program that utilizes the equation:

$$S = 1 + (Zt - Zb)(N-n)/N$$

where S is the rate of said over-sampling, N is the number of said plurality of horizontal lines of pixels, n is the horizontal line number counting from said bottom to said top, Zt is the zoom ratio at said top of said scene, and Zb is the zoom ratio at said bottom of said scene.

14. The system of claim 1 including pixels in said lines of pixels and wherein said lines of pixels are over-sampled using graded zooming in a horizontal and a vertical direction

15. The system of claim 14 wherein the number of said pixels used in said horizontal line of pixels is constant, however the rate of over-sampling of said pixels is reduced from said bottom to said top according to a scale factor wherein said horizontal line of said pixels at said top of said scene is zoomed to 2X of that of said horizontal line of said pixels at said bottom of said scene.

16. The system of claim 14 wherein the number of said pixels used in said horizontal line of said pixels is constant, however the rate of over-sampling of said pixels is reduced from said bottom to said top according to a scale factor wherein said horizontal line of said pixels at said top of said scene is zoomed to 2X of that of said horizontal line of said pixels at said bottom of said scene and said bottom line is over-sampled at a rate of 2, while said top line is not over-sampled at all.

17. A system for balancing resolution of a scene having a bottom and a top and a near field and a far field, represented by a plurality of lines of pixels that captures said scene's near field and maintains resolution in said scene's far field, comprising:

a digital camera, and

a computer-readable medium that applies a specific zooming scale factor to each of said lines of pixels and continuously increases the scale factor of said lines of pixels from said bottom to said top to capture said scene in said near field, yet maintain resolution in said scene in said far field.

18. The system of claim 17 wherein said lines of pixels are horizontal lines of pixels and said computer-readable medium is operatively connected to a

computer program that applies a specific zooming scale factor to each of said horizontal lines of pixels and continuously increases the scale factor of said horizontal lines of pixels from said bottom to said top to capture said scene in said near field, yet maintain resolution in said scene in said far field.

19. The system of claim 18 wherein said horizontal lines of pixels form a digital image.

20. The system of claim 18 wherein said horizontal lines of pixels form a photographic image.

21. The system of claim 18 wherein said horizontal lines of pixels are over-sampled.

22. The system of claim 18 wherein said computer program utilizes the equation:

$$S = 1 + (Zt - Zb)(N-n)/N$$

where S is the rate of said over-sampling, N is the number of said plurality of horizontal lines of pixels, n is the horizontal line number counting from said bottom to said top, Zt is the zoom ratio at said top of said scene, and Zb is the zoom ratio at said bottom of said scene.

23. A method of balancing resolution of a scene having a bottom and a top and a near field and a far field, represented by a plurality of lines of pixels that capture said scene's near field and maintains resolution in said scene's far field, comprising the steps of:

applying a specific zooming scale factor to each of said lines of pixels, and

continuously increasing the scale factor from said bottom to said top to capture said scene in said near field, yet maintain resolution in said scene in said far field.

24. The method of claim 23, wherein said step are performed utilizing a computer containing a computer program that applies a specific zooming scale factor to each of said lines of pixels and continuously increases the scale factor of said lines of pixels from said bottom to said top to capture said scene in said near field, yet maintain resolution in said scene in said far field.

25. The method of claim 24, wherein said computer program utilizes the equation:

$$S = 1 + (Zt - Zb)(N-n)/N$$

where S is the rate of over-sampling, N is the number of said plurality horizontal lines, n is the horizontal line number counting from bottom to top, Zt is the zoom ratio at the top of said scene, and Zb is the zoom ratio at the bottom of said scene.

26. The method of claim 23, including the step of over-sampling said lines of pixels.

27. The method of claim 23 wherein said computer contains a computer program that utilizes the equation:

$$S = 1 + (Zt - Zb)(N-n)/N$$

where S is the rate of said over-sampling, N is the number of said plurality horizontal lines, n is the horizontal line number counting from said bottom to

said top, Zt is the zoom ratio at said top of said scene, and Zb is the zoom ratio at said bottom of said scene.

28. The method of claim 23 wherein pixels are contained in said lines of pixels and including the step of over-sampling said lines of pixels using graded zooming in a horizontal and a vertical direction.

29. The system of claim 28 wherein the number of said pixels used in said line of pixels is constant, however the rate of over-sampling of said pixels is reduced from said bottom to said top according to a scale factor wherein said line of said pixels at said top of said scene is zoomed to 2X of that of said line of said pixels at said bottom of said scene.

30. The method of claim 23 wherein the number of said pixels used in said line of said pixels is constant, however the rate of over-sampling of said pixels is reduced from said bottom to said top according to a scale factor wherein said line of said pixels at said top of said scene is zoomed to 2X of that of said line of said pixels at said bottom of said scene and said bottom line is over-sampled at a rate of 2, while said top line is not over-sampled at all.

31. The method of claim 23, wherein a computer contains a computer program that applies a specific zooming scale factor to each of said horizontal line of pixels and continuously increases the scale factor of said horizontal line of pixels from said bottom to said top to capture said scene in said near field, yet maintain resolution in said scene in said far field.